

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicants thank the Examiner for carefully considering this application.

Examiner Interview

An Examiner Interview was conducted on March 16, 2010 with Examiner Arcos. In the Examiner Interview, Applicants discussed the rejection, and proposed amending independent claims 1, 17, and 32 to clarify aspects of the invention. No agreement was reached.

Disposition of the Claims

Claims 1-32 are pending in this application. Claims 1, 17, and 32 are independent. The remaining claims depend, directly or indirectly, from independent claims 1, 17, and 32.

Amendments to the Claims

Claims 1, 7, 8, 10, 14-17, 31, and 32 are amended by this reply to clarify aspects of the invention. Further, claims 2-6, 11-13, and 18 are amended by this reply to address issues of antecedent basis resulting from the amendments to independent claims 1 or 17. Furthermore, claim 9 is amended by this reply to address issues of antecedent basis resulting from the amendments to independent claim 1, and to address issues of indefiniteness raised by the Examiner. Support for the proposed amendments may be found, for example, in Figures 2-4, in paragraphs [0030]-[0037] and [0040]-[0045] of the originally filed Specification, and in the originally filed claims. No new subject matter has been added by way of these amendments.

Rejections under 35 U.S.C. § 112

Claim 9 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. *See* Office Action dated December 22, 2009 (“Office Action”), p. 2. Specifically, the Examiner states “it is not clearly understood what are the criteria for deactivating the container.” *See* Office Action, p. 2. In other words, the Examiner contends that the claimed step of *deactivating the container* must be performed after satisfying specific criteria, and that such criteria must be specified in the claim.

Applicants respectfully disagree with the Examiner’s contentions. Specifically, 35 U.S.C. § 112 (or any other relevant law) does not require that the steps of a method claim be performed under any particular criteria. Further, as discussed in the Specification, *deactivating the container* is not performed under any particular criteria. Accordingly, Applicants submit that there is no requirement to include such criteria in claim 9 under 35 U.S.C. § 112. However, in the interest of facilitating prosecution, Applicants have amended claim 9 by this reply to recite that *deactivating the container* occurs upon receiving an indication of a requirement to deactivate the container. Accordingly, withdrawal is respectfully requested.

Rejections under 35 U.S.C. § 103Claims 1-5, 7-8, 11-12, 14, and 16

Claims 1-5, 7-8, 11-12, 14, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over US Patent Pub. No. 2003/0037092 (“McCarthy”) in view of US Patent No.

7,433,951 (“Waldspurger”), and further in view of US Patent No. 7,406,522 (“Riddle”). To the extent the rejection applies to the pending claims, the rejection is respectfully traversed.

35 U.S.C. § 103 provides the statutory definition of obviousness. The framework for applying 35 U.S.C. § 103 was initially set out by the Supreme Court in *Graham v. John Deere Co.*, 86 S.Ct. 684 (1966). This framework was reaffirmed by the court in *KSR Intern. Co. v. Teleflex Inc.* 127 S.Ct. 1727, 1734 (2007). Based on the above framework, one rationale that may be used to support a conclusion of obviousness is that all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination yielded nothing more than predictable results to one of ordinary skill in the art. *See KSR*, 127 S.Ct. at 1739. In the instant case, the Examiner, in articulating the analysis used to reject the claims under 35 U.S.C. § 103, has used the above rationale to support a rejection of obviousness in view of McCarthy, Waldspurger, and Riddle. *See Office Action*, p. 3-7. Applicants respectfully disagree.

Turning to the claims, amended independent claim 1 requires, in part: (i) creating a first resource pool and a second resource pool within a computer system, where the computer system includes a first resource and a second resource; (ii) allocating portions of each resource to each resource pool; (iii) creating a first container and a second container within the first resource pool; (iv) specifying resource requirements for the first container; (v) determining that the resource requirements for the first container are valid if they do not exceed the portions of the resources allocated to the first resource pool, and (vi) activating the first container only if the resource requirements for the first container are valid.

1. McCarthy fails to satisfy limitations (i) and (ii)

Turning to the rejection, the Examiner contends that the claimed *containers* are disclosed by the “partitions” of McCarthy, and the claimed *resource pool* is disclosed by the computer system of McCarthy. *See* Office Action, pp. 3-4. Applicants respectfully disagree with the Examiner’s contentions. Specifically, amended claim 1 requires that multiple resource pools are created within a computer system (i.e., limitation (i) stated above). Using the Examiner’s analogy would require that the computer system of McCarthy (i.e., the claimed *resource pool*, according to the Examiner) to be created within another computer system. However, McCarthy fails to disclose this limitation. In fact, Applicants submit that the Examiner’s interpretation of claim 1 is improper, as a computer system cannot be “created within” another computer system. Thus, the computer system of McCarthy fails to disclose or render obvious a *resource pool* created within a computer system, as required by limitation (i).

Moreover, claim 1 also requires that portions of resources of the computer system are allocated to the resource pool (i.e., limitation (ii) stated above). In other words, the claimed resource pool is not allocated the entirety of a resource of the computer system, but rather is only allocated some smaller amount of that resource. Using the Examiner’s analogy would require the computer system of McCarthy (i.e., the *resource pool*, according to the Examiner) to be allocated only a portion of the resources of the computer system. However, Applicants submit that the computer system of McCarthy by definition must include all of the resources of itself (i.e., the computer system), and thus cannot be allocated a portion of its own resources. Accordingly, for this additional reason, the computer system of McCarthy does not disclose or render obvious a *resource pool* that is allocated a portion of a resource of a computer system, as required by limitation (ii).

2. Waldspurger fails to satisfy limitations (ii) and (ii)

As stated above, claim 1 requires that multiple resource pools are created within a single computer system (i.e., limitation (i) listed above). Regarding this limitation, the Examiner admits that McCarthy fails to disclose multiple resource pools, and instead relies on Waldspurger to disclose this limitation. *See* Office Action, p. 4. Specifically, the Examiner contends that the multiple “virtual machine monitors” (VMMs) shown in Fig. 1 of Waldspurger disclose the claimed multiple resource pools, and further contends that it would be obvious to one of ordinary skill in the art to combine McCarthy and Waldspurger to disclose the claimed invention. *See Id.*

Applicants respectfully disagree with the Examiner’s contentions. Specifically, the Examiner’s analogy requires that the VMMs (i.e., the *resource pools*, according to the Examiner) are allocated portions of resources of the computer system (i.e., limitation (ii) stated above), and that multiple containers are created within a VMM (i.e., limitation (iii) stated above). However, Waldspurger is entirely silent with regard to these limitations. Rather, Waldspurger discloses that the VMMs are merely interfaces “between a VM and an underlying host operating system HOS 220 and hardware, which are responsible for actually executing VM-issued instructions and transferring data.” *See* Waldspurger, col. 8, lines 8-12. Applicants submit that such interfaces cannot be allocated portions of resources, and cannot have containers created within them, as is required by the Examiner’s interpretation of claim 1. Accordingly, the VMMs of Waldspurger clearly fail to properly disclose the resource pools as claimed.

3. McCarthy fails to satisfy limitations (v) and (vi)

Claim 1 further requires determining that the resource limitations for the first container are valid if they do not exceed the portions of the resources allocated to the first resource pool (i.e.,

limitation (v) stated above), and activating the first container only if the resource limitations for the first container are valid (i.e., limitation (vi) stated above). In rejecting claim 1, the Examiner contends that these limitations are disclosed by McCarthy, paragraphs [0036], [0038], and [0044]. *See* Office Action, p. 4.

Applicants respectfully disagree with the Examiner. A review of McCarthy reveals that McCarthy is silent with regard to limitations (v) and (vi). Specifically, the cited paragraphs [0036] and [0038] relate to steps in Fig. 3 of McCarthy. *See* McCarthy, paragraphs [0036] and [0038]. Further, paragraph [0044] describes an example of step 316 of Fig. 3. *See* McCarthy, paragraph [0044]. However, as is made clear by step 315 of Fig. 3 (i.e., “Determine whether reallocation is necessary?”), the process of Fig. 3 relates only to reallocation of resources. *See* McCarthy, Fig. 3. Thus, Applicants submit that the cited paragraphs are clearly unrelated to determining whether to activate a given partition (i.e., the container, according to the Examiner), but rather relate to reallocating resources to existing partitions. Accordingly, McCarthy at least fails to disclose or render obvious limitations (v) and (vi).

4. Summary

Applicants respectfully submit that, based on the above reasons, the Examiner has failed to properly establish a *prima facie* case of obviousness with respect to amended independent claim 1. Accordingly, Applicants respectfully request withdrawal of the present rejection of claim 1 and dependent claims.

Claim 6

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy, Waldspurger, and Riddle, and further in view of US Patent Pub. No. 2005/0091346 (“Krishnaswami”). To the extent the rejection applies to the pending claims, the rejection is respectfully traversed.

As discussed above, McCarthy, Waldspurger, and Riddle do not disclose or render obvious the limitations of amended independent claim 1. Further, Krishnaswami does not disclose or otherwise provide that which McCarthy, Waldspurger, and Riddle lack. Specifically, Krishnaswami, like McCarthy, Waldspurger, and Riddle, is also silent with regard to the aforementioned limitations of claim 1. Thus, amended independent claim 1 is also patentable over McCarthy, Waldspurger, Riddle, and Krishnaswami. Claim 6 depends from independent claim 1, and thus is patentable over the cited art for at least the same reasons. Accordingly, for at least the above reasons, withdrawal of this rejection is respectfully requested.

Claim 9

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy, Waldspurger, and Riddle, and further in view of US Patent Pub. No. 2004/0158834 (“Ham”). To the extent the rejection applies to the pending claims, the rejection is respectfully traversed.

As discussed above, McCarthy, Waldspurger, and Riddle do not disclose or render obvious the limitations of amended independent claim 1. Further, Ham does not disclose or otherwise provide that which McCarthy, Waldspurger, and Riddle lack. Specifically, Ham, like McCarthy, Waldspurger, and Riddle, is also silent with regard to the aforementioned limitations of claim 1.

Thus, amended independent claim 1 is also patentable over McCarthy, Waldspurger, Riddle, and Ham. Claim 9 depends from independent claim 1, and thus is patentable over the cited art for at least the same reasons. Accordingly, for at least the above reasons, withdrawal of this rejection is respectfully requested.

Claim 10

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy, Waldspurger, Riddle, and Ham, and further in view of US Patent No. 6,609,213 (“Nguyen”). To the extent the rejection applies to the pending claims, the rejection is respectfully traversed.

As discussed above, McCarthy, Waldspurger, Riddle, and Ham do not disclose or render obvious the limitations of amended independent claim 1. Further, Nguyen does not disclose or otherwise provide that which McCarthy, Waldspurger, Riddle, and Ham lack. Specifically, Nguyen, like McCarthy, Waldspurger, Riddle, and Ham, is also silent with regard to the aforementioned limitations of claim 1. Thus, amended independent claim 1 is also patentable over McCarthy, Waldspurger, Riddle, Ham, and Nguyen. Claim 10 depends from independent claim 1, and thus is patentable over the cited art for at least the same reasons. Accordingly, for at least the above reasons, withdrawal of this rejection is respectfully requested.

Claim 13

Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy, Waldspurger, and Riddle, and further in view of US Patent No. 6,578,141 (“Kelly”) and US Patent

No. 7,117,371 (“Parthasarathy”). To the extent the rejection applies to the pending claims, the rejection is respectfully traversed.

As discussed above, McCarthy, Waldspurger, and Riddle do not disclose or render obvious amended independent claim 1. Further, Kelly and Parthasarathy, whether viewed separately or in combination, do not disclose or otherwise provide that which McCarthy, Waldspurger, and Riddle lack. Specifically, Kelly and Parthasarathy, like McCarthy, Waldspurger, and Riddle, are also silent with regard to the aforementioned limitations of claim 1. Thus, amended independent claim 1 is also patentable over McCarthy, Waldspurger, Riddle, Kelly, and Parthasarathy. Claim 13 depends, either directly or indirectly, from independent claim 1, and thus is patentable over the cited art for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 15

Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy, Waldspurger, and Riddle, and further in view of US Patent No. 7,150,020 (“Kalhour”). To the extent the rejection applies to the pending claims, the rejection is respectfully traversed.

As discussed above, McCarthy, Waldspurger, and Riddle do not disclose or render obvious the limitations of amended independent claim 1. Further, Kalhour does not disclose or otherwise provide that which McCarthy, Waldspurger, and Riddle lack. Specifically, Kalhour, like McCarthy, Waldspurger, and Riddle, is also silent with regard to the aforementioned limitations of claim 1. Thus, amended independent claim 1 is also patentable over McCarthy, Waldspurger, Riddle, and Kalhour. Claim 15 depends from independent claim 1, and thus is patentable over the cited art for

at least the same reasons. Accordingly, for at least the above reasons, withdrawal of this rejection is respectfully requested.

Claims 17-21, 29, and 31-32

Claims 17-21, 29, and 31-32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy and Waldspurger. To the extent the rejection applies to the pending claims, the rejection is respectfully traversed.

Applicants respectfully submit that amended independent claims 17 and 32 include similar limitations to the aforementioned limitations of amended claim 1 (i.e., limitations (i)-(vi) listed above). As discussed above, McCarthy and Waldspurger fail to disclose or render obvious the aforementioned limitations. Therefore, Applicants submit that amended independent claims 17 and 32, and claims depending therefrom, overcome the rejection under 35 U.S.C. § 103 based on McCarthy and Waldspurger. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 22 and 28

Claims 22 and 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy and Waldspurger in view of US Patent No. 6,799,208 (“Sankaranarayan”). To the extent the rejection applies to the pending claims, the rejection is respectfully traversed.

As discussed above, McCarthy and Waldspurger fail to disclose or render obvious the limitations of amended independent claim 17. Further, Sankaranarayan does not disclose or otherwise provide that which McCarthy and Waldspurger lack. Specifically, Sankaranarayan, like McCarthy and Waldspurger, is also silent with regard to the aforementioned limitations. Thus,

amended independent claim 17 is also patentable over McCarthy, Waldspurger, and Sankaranarayan. Claims 22 and 28 depend from independent claim 17, and thus are patentable over the cited art for at least the same reasons. Accordingly, for at least the above reasons, withdrawal of this rejection is respectfully requested

Claim 30

Claim 30 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy and Waldspurger in view of Shuster. To the extent the rejection applies to the pending claims, the rejection is respectfully traversed.

As discussed above, McCarthy and Waldspurger do not disclose or render obvious the limitations of amended independent claim 17. Further, Shuster does not disclose or otherwise provide that which McCarthy and Waldspurger lack. Specifically, Shuster, like McCarthy and Waldspurger, is also silent with regard to the aforementioned limitations. Thus, amended independent claim 17 is also patentable over McCarthy, Waldspurger, and Shuster. Claim 30 depends, either directly or indirectly, from independent claim 17, and thus is patentable over the cited art for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 23-26

Claims 23-26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy and Waldspurger in view of Kalhour. To the extent the rejection applies to the pending claims, the rejection is respectfully traversed.

As discussed above, McCarthy and Waldspurger do not disclose or render obvious amended independent claim 17. Further, Kalhour does not disclose or otherwise provide that which McCarthy and Waldspurger lack. Specifically, Kalhour, like McCarthy and Waldspurger, is also silent with regard to the aforementioned limitations. Thus, amended independent claim 17 is also patentable over McCarthy, Waldspurger, and Kalhour. Claims 23-26 depend, either directly or indirectly, from independent claim 17, and thus are patentable over the cited art for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 27

Claim 27 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy and Waldspurger in view of Kalhour and Krishnaswami. To the extent the rejection applies to the pending claims, the rejection is respectfully traversed.

As discussed above, McCarthy, Waldspurger, and Kalhour, whether viewed separately or in combination, do not disclose or render obvious amended independent claim 17. Further, Krishnaswami does not disclose or otherwise provide that which McCarthy, Waldspurger, and Kalhour lack. Specifically, Krishnaswami, like McCarthy, Waldspurger, and Kalhour, is also silent with regard to the aforementioned limitations. Thus, amended independent claim 17 is also patentable over McCarthy, Waldspurger, Kalhour, and Krishnaswami. Claim 27 depends, either directly or indirectly, from independent claim 17, and thus is patentable over the cited art for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicants believe this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 03226/432001).

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